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Licensing a Null Subject at CP: Imperatives, the 1st Person, and PRO*

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Under the framework of Government and Binding Theory, empty categories (ECs) are discussed in terms of how they are licensed and how they are interpreted (identified) and at least four types have been identified; PRO, NP-trace (pure anaphor), *pro*, and *wh*-trace (variable), the latter two of which are in a 'governed' position. In this paper, I will claim that certain 'governed' subject ECs, such as the subject of imperatives and the 1st person subject in Japanese, are licensed at the CP level via AGREE(ment), provided that the CP system encodes features (or heads) that make the relevant subject EC sufficiently identifiable. I will then claim that PRO may be licensed in a similar way, adopting the spirit of Borer's (1989) anaphoric AGR analysis.

1. Introduction

One of the most popularly discussed topics within Government and Binding (GB) Theory is concerned with empty categories (ECs). Based on their behavior with respect to Binding Theory and their internal features, ECs are categorized into the four types; PRO, *pro*, NP-trace (pure anaphor), and *wh*-trace (A'-bound variable). They are subject to conditions on (i) how they are licensed and (ii) how they are interpreted.

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Differences among these four types are briefly summarized in (1) and examples of each type are given in (2), (3), and (4).

- (1) a. traces:
 (i) created by movement; (ii) identified by their antecedents
 • NP-trace/A-bound anaphor at non-Case-marked position
 • *wh*-trace/A'-bound variable at Case-marked position
 b. pronominals:
 PRO (i) ungoverned or Null Case marked
 (ii) Control Theory
 pro (i) governed by Head (X), e.g., Infl
 (ii) rich enough X (Infl, Agr)
- (2) a. Who did you invite [e] ? (*wh*-trace)
 b. Mary was invited [e]. (NP-trace)
- (3) a. John tried [PRO to leave]. PRO = John
 b. Mary persuaded John [PRO to leave]. PRO = John
 c. Mary knows [how PRO to fix the car]. PRO = *arb(itrary)*
 d. [PRO to win] is fun. PRO = *arb*
- (4) a. {Juan/ *pro*} vio ese film. ‘John saw that film.’
 b. {Juan/ *él*/ *pro*} siempre habla de si mismo.
 ‘{John/ he} always talks about himself.’

The ECs in (2) are traces. PRO, which is exemplified in (3), is to be restricted to a non-tensed subject position and is interpreted by Control Theory, due to which PRO is to be bound by a c-commanding subject or be free (arbitrary in reference). In (4), *pro* is exemplified, which is typically observed at the subject position in languages that exhibit a rich enough agreement system; i.e., *pro* is identified by agreement features on a finite verbal element. Such languages are often called null subject languages (NSLs).

As opposed to these well-accepted and readily identifiable types of ECs, the ECs observed in Japanese, those marked as ϕ in (5), have been rather controversial.

- (5) a. ϕ Hon-o kat-ta. $\phi \neq arb$
 book-ACC buy-past
 ‘(I/you/he/they ...) bought a book.’
- b. Hanako-ga ϕ kat-ta. $\phi \neq arb$
 H. -NOM buy-past
 ‘Hanako bought (it).’
- c. (Ask Hanako, noticing that she bought something,)
 ϕ SUBJ ϕ OBJ Kat-ta no? ϕ OBJ $\neq arb$, something
 ‘Did (you) buy (it/*something).’
- d. Taro_i-ga [ϕ _{*i*j} hon-o kat-ta to] it-ta.
 ‘Taro said that (he/they/she ...) bought a book.’

These ECs take place at Case-marked position, just like a *wh*-trace in (2a), but there does not seem any obvious movement involved nor a visible antecedent. To the extent that this type of EC can refer to a c-commanding subject as in (5d), it seems to be a pronominal just like PRO in (3) or *pro* in (4). But yet the clause is tensed, unlike the case of PRO in (3), and no morphologically identifiable agreement is observed between the EC and the predicate, differing from *pro* in (4).

Given these characteristics of ECs in Japanese, I have proposed in Hasegawa (1984/85), along with Huang (1984), that the ECs observed in (5) be variables (i.e., A'-traces) bound by a topic which itself can be null. One piece of evidence for this analysis has to do with the fact that the EC cannot be arbitrary (or non-specific) in reference. This fact naturally follows from the well-established fact that a topic only refers to a pre-supposed or pre-registered item in discourse, if the EC is in fact a null-topic bound variable. See Kuno (1973) for more discussion on the nature of topic phrases.

This, however, does not mean that Japanese does not exhibit an EC with the arbitrary interpretation. Only at the subject of a non-tensed clause, such as in (6a), the EC that is arbitrary in reference is possible. This is essentially the same context as the one for (3d), and the EC there can be considered as PRO.¹

¹ We will come back to PRO_{arb} in Section 4, where not only PRO_{arb} as the subject of an infinitive but PRO_{arb} as the matrix subject observed in Japanese will be discussed.

- (6) a. [ϕ Tabako-o su-u] koto-wa yoku-nai. $\phi = arb = PRO$
 tobacco-ACC smoke-pres fact-TOP good-not
 'To smoke tobacco is no good.'
- b. [Kodomo-ga ϕ su-u] koto-wa yoku-nai. $\phi \neq arb$
 child-NOM smoke-pres fact-TOP good-not
 'For children to smoke ϕ is no good.'
- c. [ϕ Tabako-o sut-ta] koto-wa yoku-nai. $\phi \neq arb$
 tobacco-ACC smoke-past fact-TOP good-not
 '(I/you/he/they...) smoked tobacco was no good.'

Among various ECs, when considering pronominal ECs, PRO and *pro*, we see that they are allowed only at the subject position. The object ECs, on the other hand, are different from the subject ECs to the extent that they are allowed only when they are bound by an A'-antecedent; i.e., variables.

In what follows, I will show that there are other cases of subject ECs, which have not drawn much attention within the GB framework. They occur as a subject of imperatives and volitionals and as the first person subject in Japanese (as well as in informal writings in English and others). I will argue that these instances of subject ECs are licensed and interpreted by a particular type (or feature) on the C-head that specifies the predicate type, claiming that there is an AGREE(ment) relation involved between a null subject and a predicate. I will then propose, adopting the spirit of Borer (1989), that PRO, being a type of null subject EC, be also analyzed in the same way. In the end, I will speculate that all the ECs that serve as a subject are licensed in the same way, namely, being bound by (or AGREEing to) a C-head. How ECs differ depends on what functions or features the C-head assumes.

2. Discourse-Related Null Subjects

Besides the four EC types given in (1), there are at least a few more EC types language allows. The first type we will examine is a null subject in imperatives and volitionals, and the second type is the first person null subject in Japanese and in informal writings (e.g., diaries) in English (and other languages).

2.1 Imperatives

The imperative construction has been rather extensively examined in traditional grammar (and also within Standard Theory). Under the GB framework, however, not much discussion has been devoted to it in spite of the fact that it involves an EC at the subject position. Let us see some basic facts of imperatives. Observe (7).

- (7) a. Open the door. Be quiet.
b. You be quiet.
c. Behave yourself. Use your own pen.
d. Get inside, will you?

Examples (7a) are of the most typical imperatives, which lack a subject and an inflectional marking on a predicate. Being imperative, the missing subject is easily assumed to be 'you' and the subject *you* may in fact show up as in (7b) in an emphatic imperative and the assumed subject *you* explains the occurrence of the anaphoric expressions, *yourself* and *your own* in (7c), which require their binders at the level where they are licensed (i.e., at LF). Furthermore, (7d) shows that the tag for an imperative is *will you*, which suggests that imperatives do have the subject *you* and the inflection *will* at some point of derivation. Perhaps because of these facts, the null subject in imperatives has been considered differently from the ECs in (1); namely, it is a 'deleted' subject (perhaps in PF) but not an EC, which is a category that merely lacks a phonetic matrix.

However, the hypothesis that the subject *you* is deleted in imperatives does not seem to be maintained once the so-called 'third person' imperatives are taken into consideration. Observe (8).

- (8) a. Somebody open the door, will {you/*he}?
a'. Someone opens the door everyday, doesn't he?
b. Everybody_i take off {your_i hat/*his_i hat}.
b'. Everybody_i takes {*your_i hat/ his_i hat}.
c. John come here, and Mary stay there!

Examples (8a) and (8b) indicate that the subject other than 'you' can

show up. What is interesting is the fact that, even though the subject is in the form of the 3rd person, the subject in the tag is *you* and the pronoun in the object that refers to the subject is of the 2nd person *your*. This is quite in contrast with (8a') and (8b'), ordinary indicatives with the 3rd person subject, which involve the 3rd person *he* in the tag and *his* in the object. Example (8c) indicates that proper nouns can be a subject of imperatives, as long as their referents are included in the group to which the imperatives are addressed. Note that these imperatives do not exhibit the third person agreement, which is mandatory in indicatives. The facts seen in (8) suggest that imperatives do involve the addressee as a subject but the 'addressee' status is not necessarily expressed by the 2nd person pronoun *you* but can be disguised with the 3rd person subject without triggering the third person agreement.²

As for the position of an imperative subject, negative imperatives are suggestive. Observe (9).

- (9) a. Don't you say anything! Don't you be stupid!
 a'. You don't say anything. *You don't be stupid.
 b. Don't anyone open the door!
 b' *Anyone don't /doesn't open the door.

Negative imperatives involve *don't* and, unlike the indicative counterparts (9a'), it takes place even with the *be* verb and precedes the subject *you*. What is particularly interesting is (9b), where the negative polarity item *anyone*, which cannot assume an indicative subject, can serve as a subject of the third person negative imperative, being in the scope of negation. This indicates either (i) the subject of imperatives is below IP, if *don't* is at Infl, or (ii) it may be at Spec of IP, just like any other subjects, but *don't* takes place above IP. As will be seen shortly, we will pursue (ii), in view of the pragmatic function (or Force) of imperatives.

To sum, imperatives exhibit the following characteristics that require explanation.

² In what follows, I will use the cardinal expressions, 1st, 2nd, and 3rd, to refer to pronoun expressions such as *I*, *you*, *he*, *them*, etc., and the expressions with alphabets, such as 'first', 'second' and 'third' to denote the discourse and semantic notions involving 'person', such as the speaker, the addressee, and the others, respectively.

- (10) a. The subject of imperative ‘you’ may be omitted.
 b. The 3rd person DPs (e.g., someone, everybody, John, Mary, etc.) can be a subject of imperatives.³
 c. The 3rd person subject of imperatives does not trigger the third person agreement and it behaves more like the 2nd person, serving as an antecedent for the anaphoric *your* and triggering the *you* subject in the tag.
 d. The imperative status is marked at the level higher than the position of the subject, as the position of *Don’t* indicates.

Before discussing how imperatives are structurally accounted for, let us briefly consider the pragmatic or discoursal function of imperatives, which is distinct from indicatives. Imperatives are not descriptions of events but rather the speaker’s requests for the realization of the event expressed. Hence, the tense of imperatives is not determinable at the time of the utterance; i.e., irrealis, and the subject is simply ‘the addressee’, not necessarily the 2nd person, which is the morphological or grammatical feature on the pronoun ‘you’. Let us see how we incorporate this into the structure of imperatives.

2.2 Clause Types and the CP System

As mentioned above, imperatives constitute an independent clause type, which is different from indicatives or questions. In this sense, the recent proposal of Rizzi (1997) on the CP system seems to have a lot to do with how imperatives are analyzed. He states (11) as the conceptual backgrounds for presenting (12) as a full-fledged CP system.

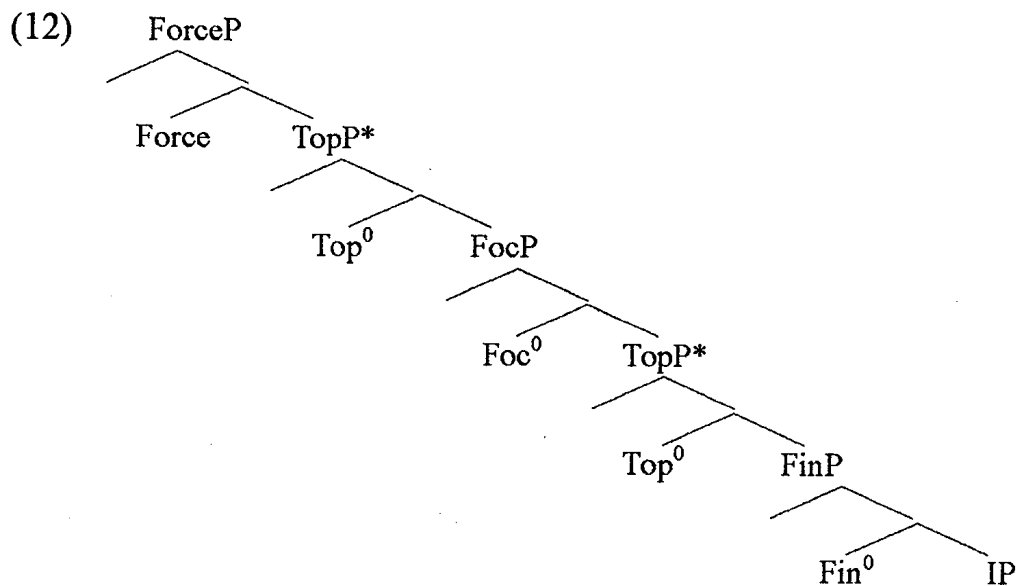
- (11) a. We can think of the complementizer system as the interface between a propositional content (expressed by the IP) and the superordinate structure (a higher clause or, possibly, the articulation of discourse, if we consider a root clause). As such,

³ As will be pointed out below, the 3rd person DPs in (10b) do not include the 3rd person pronouns, since sentences in (i) are utterly ungrammatical as imperatives, which contrasts with (8).

- (i) a. *He open the door, (will you)!
 b. *They take off {your hats/their hats}!
 c. *She come here and he stay there!

we expect the C system to express at least two kinds of information, one facing the outside and the other facing the inside. (Rizzi 1997: 283)

- b. I will then assume that the C system expresses a specification of finiteness, which in turn selects an IP system with the familiar characteristics of finiteness: mood distinctions, subject agreement licensing nominative case, overt tense distinctions ... (Rizzi 1997: 284)



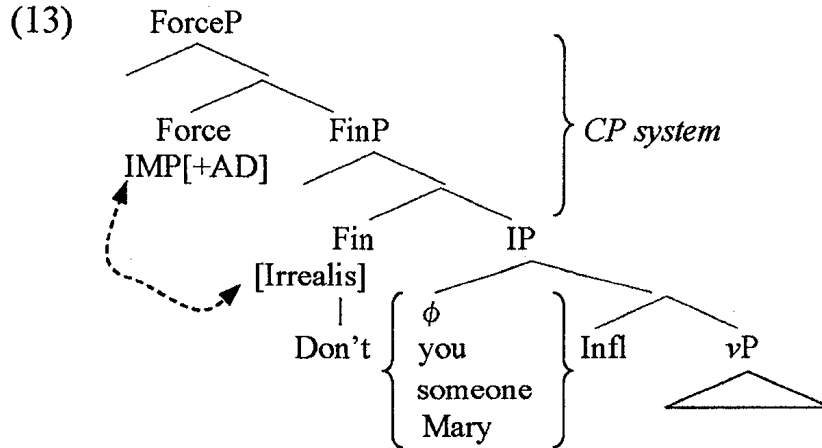
(Rizzi 1997: 297)

In Rizzi's CP system (12), Force indicates a clause type or function of a sentence, such as indicative, question, relative clause, etc., and it communicates with Fin in terms of how finiteness is encoded.⁴ Adopting the spirit of Rizzi, let us consider imperatives to have a distinctive Force (say [IMP]), which specifies 'irrealis' tense on Fin, which in turn gives rise to the characteristics of imperatives we have observed in (10). More concretely, let us assume that Force for imperatives, i.e., [IMP], involves the 'addressee' feature [+AD], which licenses or forces the existence of the subject that is compatible with the addressee. Whether the 3rd person nominals like *someone*, *everyone*,

⁴ Topic (Top) and Focus (Foc) are optional and we are not concerned with them here and the imperative structure (13) given below does not involve them. We will come back to Top and Foc in Sections 3 and 4, when null subjects in Japanese are taken up.

Mary, etc. are allowed as a subject for imperatives is to be left in the realm of pragmatics, to the extent that those compatible with [+AD] are included in those to whom the utterance is addressed.⁵

Reflecting the above, I propose (13) as the structure and analysis of imperatives.



Though exact details may have to be worked out more carefully, what I am proposing is the following. Imperatives are IMP as a sentential Force and involve the feature [+AD], which functions as a probe and searches for a DP that matches with this feature. The subject, which may be at IP-Spec, due to the EPP of Infl, meets [+AD] and agrees with IMP. If the morphological or grammatical feature on the subject is the 2nd person, namely *you*, it can be properly identified and can be null. But if the subject is not in the form of the 2nd person, but in the 3rd person form, as long as it can be considered to be the ‘addressee’, the agreement requirement enforced by [+AD] of [IMP] can be met.⁶ IMP

⁵ The ‘addressee’ feature proposed here is employed from Portner (2004) and Portner and Zanuttini (2003), who propose Addressee Phrase above IP, which can be transferred to Force [IMP] Phrase here. They also discuss pragmatic functions and semantics of imperatives, which provides a reason for considering imperatives as independent clause type or Force in the sense of (12).

⁶ What is incompatible with [+AD] is the first person, *I* and *we*. I assume that person features relevant to person agreement are not in three ways, 1st, 2nd, and 3rd, which has tacitly been assumed, but in two ways with respect to the features [\pm AD(dressee)] and [\pm SP(eaker)], where the 1st person has the feature complex [+SP, –AD], the 2nd person [–SP, +AD] and the 3rd person [–SP, –AD]. Unlike the 3rd person pronouns, which cannot be a subject of imperatives, as mentioned in fn.3, the 3rd person DPs that can serve as imperative subjects, such as proper nouns, *someone*, *anyone*, *everyone*, etc., may well be unspecified with respect to these features, which makes the [+AD] of [IMP] compatible with them. It is of some interest to note that

also specifies the ‘irrealis’ status or feature on FinP, which enforces no inflection in Infl and allows the presence of *Don’t* in negative imperatives.

Under this analysis, the null subject of imperatives meets the licensing and identification on ECs in the sense of (1). Given the structure (13), the null subject is licensed if it is ‘governed’ by irrealis-Fin and is interpreted by (or agree with) the [+AD] agreement feature of IMP. That is, the null subject in imperatives is just like PRO, in the sense that it takes place only when the predicate (or Infl) is of a certain type, irrealis. It is also like *pro* in NSLs to the extent that it requires agreement with the licensing head; Infl (or Agr) for *pro* and [+AD] on IMP for the imperative null subject. I will in fact present an analysis in Sections 4 and 5, where not only the null subject of imperatives but PRO and *pro* are taken to be basically of the same EC type, null subject, licensed by Fin (Infl); hence, the title of this paper, “Licensing a Null Subject at CP”. Before turning to PRO, I would like to examine null subject phenomena in Japanese. We will first take up imperatives and volitionals.

2.3 Imperatives and Volitionals in Japanese

Typical examples of imperatives in Japanese are given in (14).

- (14) a. ϕ /Dareka/ {Anata/ Hanako}-ga kotti-e ki-nasai.
 someone/ you/ H. -NOM here-to come-polite-IMP
 ‘{ ϕ / Someone/ You/ Hanako} come here!’
 b. ϕ Hayaku tabe-ro.
 quickly eat-IMP
 ‘ ϕ Eat quick!’
 c. ϕ Koko-de tabako-o su-u na.
 here-at tobacco-ACC smoke-non-perf Neg-IMP
 ‘Don’t smoke cigarettes here!’

Just like imperatives in English, the subject can be null or shows up in the 2nd person pronoun form, *anata* ‘you’, *omae* ‘you-vulgar’, etc. or in the

proper nouns in Japanese can refer not only to the 3rd person but also to the 2nd person and even to the 1st person (the speaker) in a certain register in Japanese, which seems to support the unspecified status of proper nouns and the 3rd person DPs.

3rd person expression, such as *dareka* ‘someone’ or a proper noun like *Hanako*. The role of the 3rd person subjects are the same as what we saw in (8) in English. They are not really of the 3rd person but merely so-disguised and of the second person in reality; i.e., the addressee, the DP that is compatible with the [+AD] feature in our analysis (13).

What is special about Japanese imperatives is their predicate forms. Unlike imperatives in English, which involve the infinitive form, imperatives in Japanese exhibit special morphology on the predicate. As seen above, they may show up with the imperative conjugation, ending with *-ro* or *-yo* for vowel ending verbs or *-e* for consonant verbs, or take the *renyou* ‘connective’ form which is followed by *-nasai*, the polite imperative form of *-sur-u* ‘do’, and in negative imperatives they utilize *na* ‘negation’ after the non-perfect *-(r)u* form. Given that the subject of imperatives is the addressee subject [+AD], the fact that imperatives involve these particular morphological markers on a predicate means that Japanese displays the visible AGREEMENT between the subject and the predicate.

Furthermore, the position of the negative imperative *na* provides evidence for where the imperative status is marked in structure. Relevant examples involve the *mo* ‘also’ phrase. Observe the following.

- (15) a. Hanako-mo sono hon-o yon-da.
 H. -also that book-ACC read-past
 ‘(Beside someone else) Hanako also read that book.’
 b. Hanako-ga sono hon-mo yon-da.
 -NOM -also
 ‘Hanako also read that book (beside some other book).’
 c. Hanako-mo sono hon-o yom-anakat-ta. *not>also also>not
 -Neg-past
 ‘(Beside someone else) Hanako also didn’t read that book.’
 d. Hanako-ga sono hon-mo yom-anakat-ta. *not>also also>not
 ‘Hanako also didn’t read that book (beside some other book).’

- (16) a. {Hanako/Kimi}-mo sono hon-o yom-u na. *not>also* *also>not*
H. /you -also Neg-IMP
'(lit.) Don't Hanako/you also read that book!'
- b. ϕ Sono hon-mo yom-u na. *not>also* *also>not*
'Don't also read that book!'

What we are interested in is the scope relations between negation and the *mo*-phrase in (15c), (15d), and (16); i.e., whether the following two readings are possible in (15c), for example.

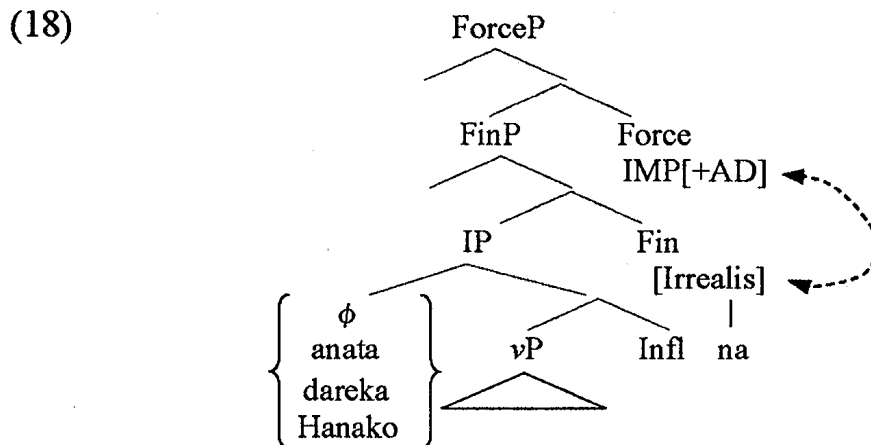
- (17) a. *also* > *not*: Hanako didn't read that book in addition to some other book that she also didn't read.
b. *not* > *also*: Hanako read at least one book but it is not the case that she also read that book.

In indicative sentences (15c) and (15d), only the *also* > *not* reading (17a) is possible. This indicates that the *mo*-phrase always takes scope over negation, which is supposed to be somewhere below the tense marker (*-ta* ‘past’ in (15)). Due to these facts (and others), I have argued in Hasegawa (1991, 1994, 2005) that the *mo*-phrase is at Spec of IP (or higher) and c-commands the negation *nai*.

In negative imperatives (16), on the other hand, the *not* > *also* reading (17b); i.e., (16b), for example, means that the speaker orders the addressee not to read that book, while allowing reading at least one other book. The availability of this reading indicates that *na*, the (negative) imperative marker, takes scope over the *mo*-phrase, which in turn suggests that *na* be above IP, namely somewhere inside CP. This is basically the same as what we saw in (9) in English. Negative imperatives make use of CP, rather than IP, letting negation take scope over the subject (IP-Spec) position.

The imperative facts in Japanese seen in (14)-(16) not only accord with the analysis of imperatives presented in (13) but also provide empirical evidence for it. In analyzing English imperatives, the agreement involving the (null) subject and the predicate is merely assumed in terms of how ECs are to be licensed in general. But in Japanese, such 'agreement' is morphologically manifested on the

predicate; the imperative markings are possible only when the subject is the addressee [+AD]. In addition, negative imperatives of both English and Japanese indicate that the imperative construction involves the CP level, which is compatible with Rizzi's system (12) and his discussion on how clause types are structurally represented. Imperatives constitute an independent clause type, say, Force(IMP), and the (null) [+AD] subject is licensed in this clause type, owing to the agreement relation with respect to the [+AD] feature between it and Force(IMP). The Force and the Fin communicate each other and they together specify the tense of the clause, which in turn would show up on the predicate head. Imperatives in Japanese are analyzed as in (18), which is essentially identical with (13).



There is yet another instance of null subjects in Japanese that can be analyzed similarly to imperatives; i.e, the volitional expressions that require the first person subject and the volitional form of a predicate, the *renyou* 'connective' stem being followed by *masyoo*. The volitional construction has a specific pragmatic function that is not shared with ordinary indicatives, imperatives, questions, etc. It expresses the speaker's will or intention to realize what is expressed, meaning somewhat close to 'I/we shall' or 'Let me/us'. Observe (19).

- (19) a. $\phi / \{ \text{Watasi} / * \text{Hanako} / \text{Watashi to Hanako} -\text{ga} \}$ iki-masyoo.
 I / H. / I and H. -NOM go-shall
 ' { ϕ / I / *Hanako / Hanako and I } shall go.'

- b. ϕ / {Watasi/*Hanako/Watashi ka Hanako-ga} denwa si-masyoo.
 I / H. / I or H. -NOM telephone-shall
 ‘{ ϕ / I/ *Hanako/ Hanako or I} shall make a call.’

The structural relation between the subject and the predicate here is basically identical to that in imperatives, though the feature involved is the speaker-related, say [+SP(eaker)], not the addressee-related [+AD]. Volitionals thus can be analyzed in the same way as (18), except that Force is [VOL]itional, which specifies [irrealis]Fin, where the volitional marker *-masyoo* may reside.

Japanese has been considered as a non-agreement language, since there is no morphologically identifiable agreement observed between the subject and the predicate. However, the previous discussion on agreement has much been concerned with phenomena at the IP level.⁷ Once we turn to phenomena involving CP’s with particular Force or discourse functions, such as imperatives and volitionals, however, Japanese exhibits varieties of agreement between the subject and the predicate. The agreement features involved at the CP level are relevant to the addressee [\pm AD] as in imperatives and the speaker [\pm SP] as in volitionals.⁸ In next section, I will argue that the [\pm SP] feature licenses the 1st person null subject in a matrix clause, which is observed in Japanese as well as in informal writings in English (and some other languages).

3. The First Person Null Subject

In this section, we will deal with the 1st person null subject phenomenon. I will show that this phenomenon is observed only in main clauses and

⁷ In Hasegawa (2005), I analyze Honorification in Japanese as an agreement process, which takes place at the IP level. Note incidentally that Honorification involves the 2nd and 3rd person, not the 1st person.

⁸ Nitta (1991) describes various ‘agreement’ phenomena or ‘correspondences’ between the subject and the predicate in Japanese, most of which are observed only in main clauses involving (epistemic and speaker-oriented) modality. Based on Nitta’s generalizations, Ueda (2007) proposes a CP structure that incorporates modality, attempting to provide structural explanations for such agreement phenomena. She specifically notes that the features involved are [\pm 1st] and [\pm 2nd], which can be easily translated into our features, [\pm SP] and [\pm AD], respectively. It seems that the analysis (18) and Ueda’s proposal are compatible. It is beyond the scope of this paper to see if it in fact is the case, however.

propose an analysis in which the [+SP] feature on (Fin-head of) the main clause CP agrees with and licenses a null subject. Thus, the 1st person null subject phenomenon constitutes another instance of the agreement observed at the level of main clause CP.

3.1 Topicalization and the 1st Person Null Subject in Japanese

In Section 1, we have briefly reviewed how ECs in Japanese, such as those in (5), repeated here as (20), have been considered, referring to Hasegawa (1984/85). These ECs are analyzed as variables bound by a null-topic, which explains why they occur at ‘governed’ Case-marked positions in a tensed clause and why they refer only to the items identifiable or pre-registered in discourse.

- (20) a. ϕ Hon-o kat-ta. $\phi \neq arb$
 book-ACC buy-past
 ‘(I/you/he/they ...) bought a book.’
- b. Hanako-ga ϕ kat-ta. $\phi \neq arb$
 H. -NOM buy-past
 ‘Hanako bought (it).’
- c. (Ask Hanako, noticing that she bought something.)
 ϕ SUBJ ϕ OBJ Kat-ta no? ϕ OBJ $\neq arb$, something
 ‘Did (you) buy (it/*something).’
- d. Taro_i-ga [ϕ _{*i*j} hon-o kat-ta to] it-ta.
 ‘Taro said that (he/they/she ...) bought a book.’

Given the null-topic analysis, the EC that refers to the 1st person is naturally taken as a representative (or the most typical instance) of null-topic bound variables, in view of the status of the 1st person as a pre-registered referent in discourse. Under careful scrutiny, however, I have found and reported in Hasegawa (2005, 2007) that the 1st person ECs behave quite differently from the 3rd person ECs. More concretely, the 1st person can be null only at the main clause subject position, but not at the object position or at the embedded subject position. Observe (21)

and (22).⁹

- (21) a. ϕ / {Watasi/Kimi/Kare/Karera...} -wa hon-o yon-da.
 I / you /he / they.. -TOP book-ACC read-past
 ‘{I/you/he/they..} read the book.’ ϕ = I, you, he, they, ...
- b. ϕ / { *Watasi/Kimi/Kare/Karera...} -wa Hanako-ga [e]
 I / you /he / they.. -TOP H. -NOM
 syootai=si-ta.
 invite-past
 ‘As for { *me/you/him/them } Hanako invited.’
- c. {Watasi/Kimi/Kare/Karera...} -o Hanako-ga [e] syootai=si-ta.
 me / you /him /them ... -ACC H. -NOM invite-past
 ‘Hanako invited {me/you/him/them ...}.’
- d. ϕ / {Watasi/Kimi/Kare...} -wa Hanako-ni syootai=s-are-ta.
 I / you /he /they.. -TOP H. -DAT invite-passive-past
 ‘{I/ You/ He } was/were invited by Hanako.’
- (22) a. Hanako-ga [ϕ 5-zi-ni ki-ta to] it-ta.
 H. -NOM 5 o’clock-at come-past COMP say-past
 ‘Hanako said that ϕ came at five.’ ϕ = *I, you, he, they, ...
- b. { *Watasi/Kimi/Karera...} -wa Hanako-ga [ϕ 5-zi-ni ki-ta to] it-ta.
 I / you / they -TOP
 ‘As for { *me/you/ him/ they }, Hanako said that { *I/you/he/they }
 came at five.’

In (21a), what is marked with *-wa* is the subject and the EC that refers to

⁹ The 1st person object can be marked by *-wa* and become null, if the predicate involves an empathy-charged predicate such as *kure-* ‘give’ that draws the speaker’s empathy to non-subjects. Compare (i) and (21b).

(i) ϕ / Watasi-wa Hanako-ga [e] syootai=si-te-kure-ta.

I -TOP H. -NOM invite-kure -past

‘As for me, Hanako invited.’ ϕ = me

I provide an analysis for these cases in Hasegawa (2005, 2007), where the object is identified by *kure-*, which in turn is licensed by the higher C-head that encodes ‘Empathy’, in the sense of Kuno (1978) and Kuno and Kaburaki (1977). The grammaticality contrast between (21b) and (i) clearly indicates that Topicalization involving the 3rd person and the *wa*-marking on the 1st person are different in nature. We will not get into the 1st person object EC, i.e., the deletion phenomenon that necessarily involves *kure-* (or an empathy-charged predicate) in this paper, however. The reader is referred to Hasegawa (2007).

the subject can be any person, including the 1st person. However, if the object is topicalized or null, the 1st person is not allowed, as shown in (21b). Note that merely preposing the 1st person object to the sentence initial position (via Scrambling) does not result in ungrammaticality, as in (21c), and that the 1st person logical object can be topicalized and become null, as long as it first moves to the subject position (i.e., becomes the structural subject of a passive) as in (21d). Similarly to the 1st person object, the 1st person at the embedded subject position cannot be topicalized nor can it be null, as seen in (22).

Given these facts, I have argued in Hasegawa (2005, 2007) that unlike what has widely been assumed, the 1st person resists Topicalization in general and what is seen in (21a) and (21d), i.e., the *-wa* marked 1st person or the 1st person null subject, requires a different treatment from Topicalization of non-1st person expressions. What I proposed there is in essence the following.¹⁰

- (23) a. The Spec of TopP in the CP system (12) is marked [–SP] (non-1st person) and only the [–SP] item can move to it. Thus, the 1st person, which is [+SP], can NOT be topicalized in general.
- b. The Spec of head X in the CP system is marked Emp(athy) (or [+SP]), which licenses the matrix 1st person subject only through AGREE(ment), which observes locality.

(23a) is a modification of the null-topic analysis of ECs and only non-1st person items are allowed to be topicalized and subsequently deleted (hence, bound by a null-topic). Any item, except the 1st person, can move to the Spec of TopP as long as it meets the ‘pre-registered’

¹⁰ I would like to refrain from committing myself to particular technical mechanisms here. What I would like to assume is that the A'-bound operation relevant to Topicalization assumed in (23a), which is an unbound operation in the GB sense, is different from the AGREE relation involving the subject and the predicate in (23b), which is local and supposed to be done in terms of the Spec-Head relation in the GB framework. This distinction seems to get somewhat blurred in the Minimalist framework (cf. Chomsky 2001), where it is said that A'-operation also involves the ϕ -feature agreement (AGREE) (and subsequent Move). I believe that these two operations should be distinct, though I will leave to future research exactly how this distinction is to be captured.

condition on Topicalization. The 1st person, however, is subject to an entirely different operation (23b). The CP projection hosts a head (say X, for the time being) that has the feature [Emp] (or [+SP]). This feature licenses a DP that agrees with it, namely, the 1st person subject.¹¹ Since the operation involved here is not movement, which is for Topicalization (23a), but AGREE, it must meet the locality requirement, involving the closest DP from the CP projection. Therefore, only the 1st person subject DP in a matrix clause undergoes (23b).

There is empirical evidence for considering the head X to be NOT a Topic but some head below it. Before presenting such evidence, let me point out that what we have proposed for the 1st person EC in Japanese, i.e., (23b), can apply to the null subject in informal writings in English (and other languages).

3.2 Null Subjects in Informal Writings

It is well known that even English, which is not a NSL, allows a null subject under certain register, such as diaries, letters, notes; the register of informal writing. Observe (24).

- (24) a. Saw no one.
 b. Left the party exhausted. (Haegeman 1990: 161)
 c. Hurt myself when trying to cut roses.
 d. John did not meet *(me).
 e. (I) wonder when *(I) will see her again. (Haegeman 1990: 163)

Example (24a) is a typical diary-style writing, where the subject is missing even in a tensed clause. There should be a ‘syntactic’ subject, however, as the presence of the secondary depictive predicate *exhausted* in (24b) indicates. And the missing subject should be the 1st person (I), given the existence of the 1st person anaphor *myself* in (24c). This missing 1st person must only be at the matrix subject, which explains the ungrammaticality of (24d), where the missing 1st person is in the object, and (24e), in which the deleted 1st person subject is embedded.

¹¹ In what follows (as well as in Hasegawa (2005, 2007)), we do not discuss whether Emp and [+SP] are different features, and, if different, how different they are. Emp is the notion that involves a relative hierarchy where the 1st person (or [+SP]) occupies the highest point in the scale. See fn. 12 for relevant discussion.

The fact observed in (24) is strikingly similar to what we saw in (21) and (22), the 1st person null subject in Japanese, and it seems reasonable to assume that the same analysis applies to both Japanese and English. That is, as schematized in (23b), the head X (with Emp or [+SP]) in the CP system works as a probe and looks for an item that agrees with the feature, which is satisfied only by the 1st person subject of the matrix clause—the closest possible item in the structure.¹²

3.3 Topic and the *Wa*-marked 1st Person Subject

Let us now consider where the head X of our system (23b) can be in the CP system. I will claim that it should be below TopP. Examining two types of *-wa*, Topic and Contrastive, Kuno (1973) specifically mentions that a sentence allows only one Topic-*wa* and that if a sentence involves more than one *wa*-phrase, only the first one is Topic and the other(s) would be Contrastive.¹³ Observe (25).

- (25) a. Taro-*wa* sono hon-*wa* yon-*da*.
 T. -TOP that book-TOP read-past.
 ‘As for Taro, he read at least that book.’
 b. Sono hon-*wa* Taro-*wa* yon-*da*.
 ‘As for that book, at least Taro read it.’

¹² Haegeman (2007) presents various examples of null subjects in informal writings, some of which involve the 3rd person null subject, and mentions that null subjects do not have to be confined only to the 1st person. She analyzes this phenomenon in terms of phase. That is, she assumes that there is more than one position for a subject; (i) inside a complement of the top-most phase and (ii) at the Spec of the top-most phase. She claims that the subject in (ii), irrespective of person features on it, is the one that cannot be pronounced, following the general practice of the Minimalism that only the complement of a phase would be sent to PF (Chomsky 2001). It seems to me that her analysis can be translated into ours, if we take the subject in (ii) is the one that is relevant to the operation (23b) in our system. One thing to solve is whether or not the feature, Emp(athy) or [+SP] is in fact involved. Haegeman claims that no person restriction is needed, while I believe this phenomenon is to be triggered by such features, in view of the Japanese data and the fact that what can be deleted is predominantly of the 1st person. Though I have to look into data more carefully, it may be possible to argue that the 3rd person deletion cases involve the speaker’s Empathy. In any case, even in Haegeman’s analysis, it seems to need to characterize what sort of subject can take place at (ii), which may very well be something that involves the speaker’s Empathy, as our system (23b) claims.

¹³ We will not be concerned with how the contrastive *-wa* is to be analyzed. To the extent that it can take place inside an embedded sentence and/or at sentence-medial position, as widely acknowledged, I assume that it may not be relevant to the CP system (12). See the discussion regarding (28) and fn.14 for relevant discussion.

Given this generalization of Kuno's, the null-topic analysis of ECs predicts that ungrammatical sentences obtain if one item is topicalized and the other is represented by an EC, or when two items are represented by ECs. Relevant examples are given in (26), where the speaker A sets up for the occurrence of a Topic or Topics, which can be null, and this prediction seems to hold.

- (26) a. A: (I am looking for Taro.)
 B: { ϕ / Taro- wa/*ga } niwa-ni i-ru yo.
 T. -TOP/ NOM garden-in exist-pres SM
 '(Taro) is in the garden.'
- b. A: (I am looking for the newspaper.)
 B: { ϕ / Sinbun-wa/*-o } ima Taro-ga yon-de i-ru yo.
 newspaper-TOP/-ACC now T. -NOM read-be-pres SM
 '(As for the newspaper) Taro is reading (it) now.'
- c. A: (I am looking for Taro and the newspaper.)
 B: *Ima soko-de Taro-wa { ϕ / sinbun-wa } yon-de i-ru yo.
 B': *Ima soko-de { ϕ / Taro-wa } sinbun-wa yon-de i-ru yo.
 B'': *Ima soko-de ϕ ϕ yon-de i-ru yo.
 '(He) is reading (it) there now.'

Examples (26a) and (26b) show that once the items, *Taro* and *sinbun* 'newspaper', respectively, are 'registered' in discourse, they cannot maintain their original case markings, *-ga* for the subject and *-o* for the object. Rather, they are to be marked with *-wa* or be deleted. What is relevant to our discussion is the facts in (26c), where both *Taro* and *sinbun* 'newspaper' are set up for topics at the same time. Interestingly, B's responses are all ungrammatical in the assumed reading. That is, it is not allowed for both the subject and the object to undergo Topicalization and subsequent deletion (null-topic) simultaneously. This follows from the null-topic analysis of Japanese ECs, contingent upon Kuno's generalization: either a lexical Topic or a null EC is allowed, but not both, nor is more than one Topic or more than one EC possible.

There is one puzzle in the above analysis, however: there are examples where more than one null EC shows up in a sentence. In other words, the sentence (26c-B'') can be grammatical under a different

interpretation from (26c), namely, the null subject is of the 1st person. Observe (27).

(27) A: (I am looking for the newspaper.)

B: Ima ϕ ϕ yon-de i-ru yo.

‘(I) am reading (it) now.’

The grammatical status of (27B) is a puzzle if ECs are all derived from Topicalization; however, under our analysis (23), where a topic and the first person null subject are treated differently, the grammaticality contrast between (26c-B”) and (27B) is predicted. The former is not allowed since more than one item is topicalized, whereas the latter is ruled in where only the object is topicalized and the subject EC is Emp(athy)-bound at CP.

The fact observed in (28) further supports our analysis (23).¹⁴

(28) Sono hon-wa ϕ yon-da yo.

that book-TOP read-past SM

(i) -wa = Topic, ϕ = I (Emp-EC) ‘As for that book, (I) read it.’

(ii) -wa=Contrastive, ϕ = 3rd person Topic EC

‘(He) read that book (but not other books).’

*(iii)-wa=Topic, ϕ =3rd person Topic EC

‘As for that book, (he) read it.’

If the object is marked with *-wa* and the subject is null, the possible readings are only (i) and (ii), and (iii) is not allowed. That is, when a Topic and an EC (or two ECs) are involved, one of them must be of the 1st person, or the *wa* phrase must be Contrastive. Now we are ready to examine how the 1st person *-wa* (or Emp-bound EC) subject and a Topic phrase are structurally represented.

Within our system (23), two *wa*-phrases are allowed, one results from Topicalization, the other refers to the 1st person (or Emp-related) subject. Both are licensed only at the main clause CP. The following

¹⁴ In (28), the order of the EC ϕ and the *wa* phrase depends on what readings it has. With the reading (28-i), the order is what is shown in (28), i.e., the *wa* phrase (Topic) first and the null 1st person EC next. This will be discussed immediately below (see Structure (30)). Under the reading (28-ii), the topic EC precedes the Contrastive *wa* phrase, as discussed in relation to (25).

examples suggest how these two are to be structurally represented.

- (29) a. Sono hon-wa watasi-wa yon-da yo.
 that book-TOP I-TOP read-past SM
 ‘As for that book, I read it.’
 b. Watasi-wa sono hon-wa yon-da yo.
 ‘I read at least that book.’

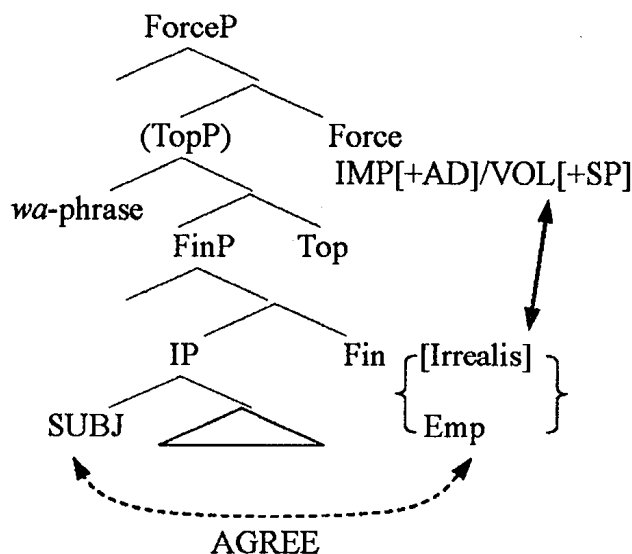
In (29), two *wa*-phrases are involved. To the extent that one of them refers to the 1st person, which is considered to be of the Emp-related *wa*, we may consider that the other is a topicalized one. This reading is available only in (29a), where the topicalized one comes before the 1st person *wa*-subject. With the opposite order, i.e., (29b), the object cannot be taken as a Topic but a Contrastive phrase, which is supposed to be inside IP. Thus, this fact provides yet another piece of evidence for treating the 3rd person *wa*-phrase and the 1st person *wa*-phrase differently, supporting our analysis (23). In addition, the order of these two *wa*’s are not interchangeable but fixed as Topic first (higher), and Emp-related or the 1st person [+SP]-*wa* next (lower).

This Topic-Emp order is in fact required in our system (23b), given the locality requirement on AGREE. Recall that the 1st person null subject is licensed through AGREE, which necessarily involves the local relation: the main clause subject is the closest DP from Emp. If the Emp-head was higher than Topic, then when it searches for an item that agrees with it, it would first reach an item at Spec-TopP, the Topic *wa*-phrase, and would never reach as far down as the subject position (Spec-IP, or Spec-*v*P), giving rise to a wrong interpretation. Hence, the order should be Top first (or higher) and the X-head for licensing the 1st person subject next (or lower).

The discussion above amounts to the structure (30), where I take the X-head for Emp or [+SP] to be Fin.¹⁵

¹⁵ Obviously, more careful examination is called for as to how these heads in the CP system are represented and what these heads are. In this paper, as I mentioned above, we basically adopt Rizzi’s (1997) structure (12), which is proposed based on Italian and English data. Without the evidence that suggests otherwise, we maintain (12). Hence, though tentative, we take the head X, which must be below Top, to be Fin. We will consider immediately below how Fin for imperatives and volitionals interacts with Topic.

(30)



Given (30), one may expect that imperatives would exhibit the same fact as the 1st person (null) subject with respect to the co-occurrence restriction with a topic phrase, since Fin, communicating with IMP, licenses the 2nd person [+AD] subject for imperatives and the 1st person [+SP] subject for volitionals, as seen in (18). This prediction, however, does not seem to be borne out. Observe the following.

- (31) a. Sono hon-wa ϕ yomi-nasai.
 that book-TOP read-imp
 ‘Read at least that book.’
 b. Hanako-wa ϕ syootai=si-masyoo.
 H. -TOP invite-vol
 ‘{Let’s / I will} invite at least Hanako.’

If Imp/Vol works similarly to Emp, a Topic should be able to co-occur with a [+AD] null subject for an imperative and a [+SP] null subject for a volitional. However, the *wa*-marked phrases in (31) do not seem to have the Topic reading, but only the Contrastive one, as reported in Nitta (1991) and Ueda (2007). Though exact details may have to be worked out more carefully, the prohibition of a Topic phrase in imperatives and volitionals seems to do with the Force-Fin relation necessarily involved in these constructions. The Emp-related 1st person null subject does not seem to select a particular Force, being able to take place in an ordinary indicative sentence. Imperatives and volitionals are different in that

sense: they have particular pragmatic functions, which need specify particular tense [irrealis], being materialized in the imperative/volitional form of a predicate. It seems that in order for Force and Fin to communicate or to establish the relation indicated by the solid line in (30), no other head, like Topic, can intervene. Hence, if a *wa*-marked phrase takes place in these constructions, it will necessarily be interpreted as Contrastive.¹⁶

In next section, I will extend our analysis of the matrix null subject to licensing PRO and claim that null subject phenomena, including PRO, can be captured by AGREE between a null subject and its licensing head, which has to do with the Fin features of the CP system.

4. PRO and CP

In Section 1, we briefly saw how PRO, a type of null subject, has been treated in GB theory. In this section, we will pursue the direction in which PRO is considered as yet another type of a null subject that is licensed by Fin-head of CP, just like other null subject cases we have examined above, the subject of imperatives/volitionals and the 1st person (or Empathy-related) subject.

4.1 Control Theory Reconsidered

Within the GB framework, PRO has been considered rather special in terms of both its licensing and its interpretation, as we saw in (1b). PRO is allowed in an ungoverned position (or in the position where Null Case is assigned), which is at the subject position of an infinitive or a gerund, and it is interpreted by Control Theory, which basically states that PRO is to be bound by an item in a superordinate clause, or is free (or arbitrary) if no c-commanding antecedent is available. Typical examples of PRO that display these characteristics are given in (32).

¹⁶ See Ueda (2007) for a different analysis of the unavailability of a topic *wa* phrase in imperatives and volitionals. Assuming that the EPP may be satisfied either at the head or at Spec, following Alexiadou and Anagnostopoulou (1998) and Ueda (2002), Ueda argues that the imperative/volitional marking on a predicate satisfies the EPP of the modality head at CP, which in turn makes unnecessary (or rather impossible) for a Topic phrase to take place at a Spec position of the CP. It is beyond the scope of this paper to compare our analysis with hers, however.

- (32) a. John_i tried [PRO_i to leave].
 b. Mary persuaded John_i [PRO_i to leave].
 c. [PRO_{arb} to see] is [PRO_{arb} to believe].

With respect to how PRO is interpreted, which Control Theory is supposed to take care of, there have been several attempts to derive what Control Theory does from a more general mechanism. They are either (i) Control Theory related; (ii) Binding Theory related; or (iii) agreement related. As for (i), Huang (1984) considers PRO just as one of ordinary [+pronominal] items, which include not only lexical pronouns but also PRO and *pro*, and claims that they are all subject to Generalized Control, hence, no need to assume Control Theory just for PRO. With respect to (ii), Manzini (1983) extends the application of Binding Theory (A) to PRO, which is [+anaphoric], specifying the (domain) governing category for PRO, which in turn makes Control Theory unnecessary. In terms of (iii), Borer (1989) and Jaeggli and Safir (1989) propose analyses where, in essence, PRO is identified by (or agree with) a nominal in its own clause, namely Infl, just like *pro* in NSLs. The difference between PRO and *pro* resides in the nature of the binder Infl: Infl for *pro* is rich (or independent) enough to license *pro*, but Infl for PRO is anaphoric (anaphoric AGR, according to Borer) and it itself is interpreted (or bound) by a higher category, rendering Control Theory unnecessary.

Among these three types of attempts, (iii) is similar to and is along the lines with what we have been pursuing in the above. We may say that both PRO and the null subjects we have been considering exhibit the common characteristics: the interpretation and licensing of ECs are contingent upon (or agree with) the status of the forms of predicates, which may be given rise to by Fin-head of CP. Recall that imperatives and volitionals have specific predicate types and they license a null subject that agrees with the particular feature: the addressee or the 2nd person [+AD] for imperatives and the speaker or the 1st person [+SP] for volitionals. As for the 1st person (or Empathy-related) null subject in Japanese and in a particular register (such as informal writings) in English (and other languages), since it is allowed only in the matrix clause, it seems reasonable to assume that such null subjects are induced

by the tense of the main clause (i.e., Fin), which enables the event expressed to anchor onto the actual time frame of the real world. Furthermore, the features relevant to the null subject licensing seems to be ‘person’-related. This leads us to a hypothesis that a null subject is possible only when it is related to a ‘person’-feature on Fin of CP. I will show that this hypothesis holds for PRO as well.

Incidentally, there is independent evidence for licensing a pronominal EC by C-head and the feature involved is pertaining to the person feature. Jeaggli and Safir (1989) cite the following examples from West Flemish, which is originally due to Haegeman.

- (33) a. ... dase *pro* komt dase: [-pl][3rd person, F]
 ‘that she comes’
 b. *... da *pro* komt da: [-pl] (w/o person feature)
 ‘that he/she comes’
 c. *... dan *pro* Kommen dan: [+pl] (w/o person feature)
 ‘that they come’

The complementizers in (33) are all specified with the number feature that corresponds with the null subject *pro*. However, in order for a null subject (*pro*) to take place, the C-head must also specify the person feature, irrespective of the form of the predicate (or Infl) or how the number is specified. Thus, it is reasonable to assume, along with what we have argued in Sections 2 and 3, that the interpretation of the null subject has to do with the C-head, the person feature on the Fin of the CP system (12), in particular.

4.2 PRO_{arb} Interpretation and the Structure of CP

The relevance of the C-head to the interpretation of PRO is seen in the contrast between (34a) and (34c).

- (34) a. Mary_i tried [PRO_i to fix the car].
 b. [PRO_{arb} to win] is a lot of fun.
 c. Mary knows [how [PRO_{arb} to fix the car]].

According to Control Theory, PRO ordinarily finds its antecedent in its superordinate clause, as long as there is a c-commanding NP that serves

as an antecedent. Only if no such antecedent is found, the *arb*(bitrary) interpretation obtains. This prediction is met in (34a), where PRO's antecedent is the matrix subject, *Mary*, and (34b), in which PRO is arbitrarily interpreted. In (34c), however, PRO_{arb} is observed even though the matrix subject, *Mary*, c-commands PRO. The obvious cause for bringing about the *arb* interpretation in (34c) is the presence of *how* in the CP; i.e., the *wh*-word in the CP somehow blocks *Mary* from becoming a (sole) binder for PRO.

If the *arb* interpretation of PRO has to do with how the relevant CP is represented, it is natural to consider that the anaphoric nature of PRO seen in (34a) is brought about by the 'empty' status of the C-head. Borer (1989) in fact argues that it is the case, by analyzing (34a) as in (35).

(35) John_i tried [_{CP} Infl_i [_{IP} PRO_i [_{Infl} e_i] to fix the car].

In her system, PRO is interpreted by Infl (anaphoric AGR) and Infl in turn requires a binder (to meet the condition (A) of Binding Theory, the condition for anaphors in general). In order to satisfy this condition, Infl moves to the C-head, from where it is bound by the matrix subject, *John*. Thus, only when the CP is 'empty' and Infl (anaphoric AGR) moves up there, the binding of PRO from the above is possible.

Given this, one may propose that the *arb* interpretation be possible either when no c-commanding binder is present as in (34b) or when Infl (anaphoric AGR) cannot move due to the presence of some other item in CP such as a *wh*-word, as in (34c). This, however, cannot explain why (36) is not allowed with the *arb* interpretation.¹⁷

(36) *It is easy [_{CP} for [_{IP} PRO [_{infl}] to fix the car]].

Due to the presence of *for*, Infl cannot move to CP, then the *arb*

¹⁷ The ungrammaticality of (36) has been considered due to the government of PRO by *for* in GB theory; however, within a framework where PRO can be governed and Null Case-marked, this explanation may not be available. Borer (1989) in fact accounts for the ungrammaticality of (36) by resorting to the non-bound status of Infl (anaphoric AGR); however, this explanation does not explain why (34c), where *how* takes place at CP, is grammatical with the *arb* interpretation. Hence, as seen immediately below, we need to distinguish *for* and *how* inside CP, *for* being at Fin, whereas *how* at the Spec of FocP of Rizzi's (1997) structure (12).

interpretation should be given rise to, which is a wrong predication.

The obvious way to capture the difference between (34c) and (36) is to differentiate *for* and *how*; *for* blocks the movement of Infl to C-head, but *how* does not, though *how* blocks *Mary* from binding Infl inside CP, ensuring the *arb* interpretation. That is, the interpretation of PRO seems to be in two folds; (i) Infl moves to the C-head that may be directly relevant to tense interpretation done by Fin-head, and (ii) the Infl at the Fin-head may be bound by a c-commanding nominal from the superordinate clause, as long as there is no intervening nominal (or Spec-item). Then, the ungrammaticality of (36) is due to the presence of *for* at Fin, which blocks the movement of Infl to Fin. In (34c), on the other hand, Infl is allowed to move to Fin-head, since the *wh*-word *how* is not at Fin but higher in the structure, most probably at the Spec of FocP (Focus Phrase of Rizzi's (1997) structure (12)). However, due to the presence of the *wh*-word at the Spec of FocP, the Infl moved to Fin cannot be bound by *Mary*, the matrix subject. The Infl (anaphoric AGR) at the Fin-head being left unbound is interpreted as *arb*. Or to put it differently, we may say that the *arb* interpretation is the unspecified value on PRO (or null subject) and it emerges if the Fin-head (agreeing with Infl) is left unspecified or unbound. The following explicates how the proposed analysis accounts for the PRO_{arb} reading of (34c).

- (37) Mary knows [_{CP} [how [_{Fin} Infl_i [_{IP} PRO_{arb} [_{Infl} e_i] to fix the car]]]].
 Λ ————— \times ————— Λ

4.3 Matrix PRO_{arb} in Japanese

I reported in Hasegawa (1995) that Japanese exhibits PRO_{arb} even in matrix clauses. Observe the contrast between (38) and (39).

- (38) a. ϕ subj Eki-de sinbun-o ut-te i-ru. $\phi \neq arb$
 station-at newspaper-ACC sell-be-pres.
 '(I/he/they .. am/are selling newspaper at the station.'
 b. ϕ subj Kono mati-de suiyoobi-ni gomi-o atume-mas-u.
 this town-at Wed.-on garbage-ACC collect-polite-pres
 '(I/he/they ... will collect garbage on Wednesday in this town.'

- (39) a. Eki-de-wa ϕ_{subj} sinbun-o ut-te i-ru. $\phi = \text{arb}$
 station-at-TOP
 ‘At the station, they(*arb*) sell newspaper.’
 b. Kono mati-de-wa ϕ_{sibj} suiyoobi-ni gomi-o atume-mas-u.
 this town-at-TOP
 ‘In this town, they(*arb*) collect garbage on Wednesdays.’

(38) and (39) are identical except the presence of the particle *-wa* on the PPs, *eki-de-wa* ‘at the station-TOP’ and *kono mati-de-wa* ‘in this town-TOP’ in (39). Interestingly, this difference is responsible for the difference in the interpretation of the null subject as well as that of the tense. Without the *-wa* PP, the null subject refers to an item identifiable or pre-registered in discourse and the tense has the actual time reference; the present tense in (38a) and the near future or habitual present in (38b). With the *-wa* PP, on the other hand, the null subject is interpreted *arb* and the tense does not anchor onto the actual time but indicates ‘irrealis’ or the ‘universal’ tense. Note that this linkage of the interpretation of the null subject to that of the tense naturally follows from our system (23b); namely, the null subject is licensed (through AGREE) by the Fin-head of CP.

What needs explanation in (38) and (39) is why the presence of a Topic-PP or a *wa*-phrase gives rise to the PRO*arb*-‘universal’ tense interpretation. The key to solution is how a topic is represented in the CP structure (12). Recall what we saw in (37), where the *arb* interpretation on PRO is brought about by the presence of *how* in the CP-system. The situation in (39) is quite similar to (37); the presence of the *wa*-phrase (in TopP) in the CP system brings about the *arb* interpretation on the null subject. Suppose that the null subject in (39) is something like PRO in (37) and is to be bound by Infl, which moves to Fin, where it is interpreted as infinitive or universal tense with a Topic PP.¹⁸ The Infl looks for its binder from the above; however, the

¹⁸ As will be discussed in Section 5, within the system proposed in the paper, it does not matter whether or not the null subject here is PRO. What is important is that a null subject, be it PRO, *pro*, or whatever, is to be ‘identified’ by or ‘bound’ to Infl (or a particular predicate form that encodes tense information), which is related to the Fin-head of the CP system. Thus, in our system, differences among null subjects do not result from the intrinsic properties of the ECs but

presence of the Topic-PP blocks such binding, just like what the *wh*-word, *how*, does in (37), which gives rise to the *arb* interpretation.¹⁹ Thus in Japanese, once a Topic phrase is used as a means to set up a particular ‘field’ or ‘world’, the ‘universal’ tense becomes possible, which in turn renders the null subject arbitrary in reference.²⁰

5. Summary and Some Consequences

In this paper, I have proposed that the null subjects seen in imperatives, volitional, informal writings, and as PRO are all licensed in reference to CP, assuming that the CP is structurally layered as Rizzi (1997) proposes; i.e., (12). The person interpretation of such null subjects can be determined by what tense interpretation and/or morpheme the predicate (or Infl) assumes and what function or Force the sentence has. Imperatives, which has a particular discourse function, require the ‘irrealis’ tense on Fin, which identifies the null subject to be the 2nd person or the addressee. Volitionals in Japanese work similarly, though the person feature involved is of the 1st person [+SP].

The null subject in informal writings is ordinarily identified as the 1st person. The tense that is involved there is ordinary indicative. I argue that the same fact is observed in Japanese, claiming that the 1st person null subject in the matrix clause is to be differentiated from other instances of ECs, which are null-topic bound. The null subjects mentioned so far are all in matrix clauses and the occurrences of such null subjects are to do with particular tense interpretation (i.e., particular Fin features), which in turn are specified by particular Force of the main clause CP.

In Section 4, I have extended our account of the null subjects in matrix to the case of PRO. PRO is supposed to be restricted only to an

are derived from what feature or what interpretation the Infl (and Fin) imposes on them through AGREE. See Section 5 for more discussion.

¹⁹ The null subject in (38) refers to an item identifiable in discourse (or refers to the speaker), which is due to its status as a variable bound by a null-topic (or as the 1st person).

²⁰ There seems to be some relation whether a language allows a null arbitrary subject in a main clause and whether lexical pronouns can assume arbitrary in reference. Note that lexical pronouns in Japanese cannot be used to refer to an arbitrary or impersonal item in general. In languages like English, where lexical 3rd person pronoun, like *they*, can be used for an arbitrary referent, a null arbitrary subject is not allowed in a main clause.

infinitival or gerundive subordinate clause. In terms of the CP structure, the subordination status itself is one of the clause types that are specified by Force, which, by collaborating with Fin, renders PRO (null subject) possible. Thus, PRO can be considered to constitute yet another instance of the null subject whose licensing and interpretation relies on the Fin feature of the CP system.

The case of PRO_{arb} provides a strong piece of evidence for our proposal that the availability and interpretation of a null subject has to do with a Fin-head of CP. PRO_{arb} is allowed even if there is a c-commanding nominal, as long as there exists an intervening item such as a *wh*-word in FocP of the CP system that blocks the binding from the above.

The correspondence between the availability of the *arb* interpretation and the presence of an item inside CP are suggestive for the interesting fact in Japanese that even a null subject of a matrix clause can be arbitrary in reference only when a *wa*-marked PP Topic takes place.

Our examination of the null subject cases in the above suggests that a null subject is possible only when (i) Force of the CP system sets up for a particular type of Fin and (ii) the features on the Fin are manifested in the predicate or Infl morphology, which AGREES with the person feature on the (null) subject.

Among various null subjects, the one in NSLs, namely, *pro*, may not seem to fall under our system, if it is in fact true that *pro* is to be licensed by the Agr feature on the Infl inside IP, as has been assumed in GB theory. Nonetheless, I would like to point out that, to the extent that Infl and (Fin of) CP ‘communicate’ in general, it seems possible to analyze *pro* as another case of a null subject licensed at CP, if Infl is allowed to move to Fin.

If the analysis proposed in this paper is on the right track, there may not be intrinsic differences in types of ECs (except A'-bound variables). They all take place in the subject position and agree with the Fin-head of the CP system. The differences are brought about by the differences in the person feature of the binder Fin, which in turn reflects what Force and tense interpretation the sentence assumes.

As a final remark, I would like to point out that the feature that is

relevant to null subjects is the ‘person’ feature not the entire set of ϕ -features. And as far as the 1st and 2nd persons (and *arb*, as well) are concerned, Japanese, which has been considered as a non-agreement language, exhibits rather extensive ‘agreement’, as seen above. See also Nitta (1991) and Ueda (2007) for more cases of person restrictions induced by particular predicate forms in Japanese. Once we take into consideration the structure and function of the CP system and how they are relevant to the rest of the sentence, we may come up with a picture quite different from the one that has been assumed in the GB framework. The null subject phenomena we have examined in this paper may be a fraction of what to see more in future: What has been analyzed inside IP may be better captured at the level of CP, where the clausal type or Force of a sentence is expressed, functioning as the interface between a proposition (IP) and the superordinate structure including discourse, information structure, pragmatic context, etc.

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